

CLAIMS

What is claimed is:

1. An image display storage and retrieval system comprising:
 - an x-ray imager providing a digital x-ray image of at least one parcel;
 - at least one screening station receiving said digital x-ray image and generating a screen annotation overlay wherein a combination of said digital x-ray image and said screen annotation overlay produces a screen annotated image;
 - at least one inspection station receiving said screen annotated image;
 - a data storage and retrieval device recording said digital x-ray image and said screen annotated image;
 - a data processor processing said digital x-ray image and said screen annotated image; and
 - a data network coupling said x-ray image source, said at least one screening station, said at least one inspection station, said data storage and retrieval device and said data processor.
2. An image display storage and retrieval system according to claim 1 wherein at least one screening station further comprises an alarm signal generator to produce an alarm signal.

3. An image display and storage retrieval system according to claim 2 wherein at least one inspection station further comprises an alarm receiver to receive said alarm signal.

4. An image display and storage retrieval system according to claim 3 wherein said alarm signal is retarded from an operator at said at least one inspection station until said at least one parcel arrives at said inspection station.

5. An image display and storage retrieval system according to claim 2 further comprising a parcel path switch directing said at least one parcel to one of either a clearance station or said at least one inspection station and wherein said parcel path switch directs said at least one parcel to a destination based on said alarm signal further comprising:

a positive alarm signal setting said destination to said at least one inspection station; and

a negative alarm signal setting said destination to said clearance station.

6. An image display storage and retrieval system according to claim 1 wherein said at least one screening station further comprises:

a view monitor displaying said digital x-ray image;

an annotation instrument selected from the group consisting of a trackpad,

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touch screen, mouse, joystick and keyboard; and

a control to remove said digital x-ray image from said view monitor.

7. An image display storage and retrieval system according to claim 1 wherein said screen annotation image is stored as separate files, a first said file comprising said digital x-ray image and a second said file comprising said screen annotation overlay.

8. An image display storage and retrieval system according to claim 1 wherein said at least one inspection station further comprises:

a view monitor displaying said screen annotated image; and

a control to remove said screen annotated image from said view monitor.

9. An image display and retrieval system according to claim 1 wherein said network further comprises:

a network server; and

a plurality of network connections connected to said network server.

10. An image display storage and retrieval system according to claim 1 wherein said data storage and retrieval device further includes:

a storage medium selected from the group consisting of a hard-disk drive, magnetic tape, DVD, CD-ROM and flash memory.

11. An image display storage and retrieval system according to claim 1 wherein said at least one screening station further comprises:

- a view monitor displaying said digital x-ray image;
- an annotation instrument selected from the group consisting of a trackpad, touch screen, mouse, joystick and keyboard; and
- an alarm signal generator to produce an alarm signal.

12. An image display storage and retrieval system according to claim 11 wherein said at least one inspection station further comprises:

- a view monitor displaying said digital x-ray image;
- a control to remove said annotated image from said view monitor; and
- an alarm receiver to receive said alarm signal.

13. An image display storage and retrieval system comprising:

- an x-ray image source providing a digital x-ray image of at least one parcel;
- at least one screening station receiving said digital x-ray image and generating a screen annotation overlay wherein a combination of said digital x-ray image and said screen annotation overlay produce a screen annotated image;
- at least one inspection station receiving one of either said digital x-ray image or said screen annotated image and generating a search annotation overlay

wherein a combination of said digital x-ray image and said screen annotation overlay and said search annotation overlay produce a search annotated image;

a parcel path switch directing said at least one parcel to one of either a clearance station or said at least one inspection station;

a data storage and retrieval device recording said digital x-ray image, said screen annotated image and said search annotated image;

a data processor processing said digital x-ray image, said screen annotated image and said search annotated image; and

a data network connecting to said digital x-ray image source, said at least one screening station, said at least one inspection station, said parcel path switch, said data storage and retrieval device and said data processor, said network enabling exchange of data.

14. An image display storage and retrieval system according to claim 13 wherein at least one screening station further comprises an alarm signal generator to produce an alarm signal.

15. An image display and storage retrieval system according to claim 14 wherein at least one inspection station further comprises an alarm receiver to receive said alarm signal.

16. An image display and storage retrieval system according to claim 15 wherein said alarm signal is retarded from an operator at said at least one inspection station until said at least one parcel arrives at said inspection station.

17. An image display and storage retrieval system according to claim 13 wherein said parcel path switch directs said at least one parcel to a destination based on said alarm signal further comprising:

a positive alarm signal setting said destination to said at least one inspection station; and

a negative alarm signal setting said destination to said clearance station to said at least one inspection station.

18. An image display storage and retrieval system according to claim 13 wherein said screen annotation image is stored as separate files comprising said digital x-ray image and said screen annotation overlay.

19. An image display and retrieval system according to claim 13 wherein said network further comprises:

a network server; and

a plurality of network connections connected to said network server.

20. An image display storage and retrieval system according to claim 13

wherein said data storage and retrieval device further includes:

a storage medium selected from the group consisting of a hard-disk drive, magnetic tape, DVD, CD-ROM and flash memory.

21. An image display storage and retrieval system according to claim 13

wherein said at least one inspection station further comprises:

a view monitor displaying said search annotated image;
a control to remove said annotated image from said view monitor; and
an annotation instrument selected from the group consisting of a trackpad, touch screen, mouse, joystick and keyboard.

22. An image display storage and retrieval system according to claim 14

wherein said at least one inspection station further comprises:

a view monitor displaying said x-ray image;
a control to remove said search annotated image from said view monitor;
an annotation instrument selected from the group consisting of a trackpad, touch screen, mouse, joystick and keyboard; and
an alarm receiver to receive said alarm signal.

23. A method to store and retrieve at least one x-ray image comprising:

providing a digital x-ray image of at least one parcel;

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receiving said digital x-ray image at an at least one screening station;

generating a screen annotation overlay producing a screen annotated image from said digital x-ray image combined with said screen annotation overlay at said at least one screening station;

receiving said screen annotated image at an at least one inspection station;

directing said at least one parcel at a parcel path switch to one of either a clearance station or said at least one inspection station;

recording on a data storage and retrieval device said digital x-ray image and said screen annotated image;

retrieving on a data storage and retrieval device said digital x-ray image and said screen annotated image;

processing on a data processor said digital x-ray image and said screen annotated image; and

coupling on a data network said x-ray image source, said at least one screening station, said at least one inspection station, said parcel path switch, said data storage device and retrieval device and said data processor, said network enabling exchange of data.

24. A method to store and retrieve at least one digital x-ray image according to claim 23 further comprising:

producing an alarm signal at said at least one screening station; and

receiving said alarm signal at said at least one inspection station.

25. A method to store and retrieve at least one digital x-ray image according to claim 24 further comprising retarding said alarm signal from an operator to said at least one inspection station until said at least one parcel arrives at said inspection station.

26. A method to store and retrieve at least one digital x-ray image according to claim 24 wherein said directing said at least one parcel at a parcel path switch to one of either a clearance station or said at least one inspection station further comprises:

setting said destination to said at least one inspection station when said alarm signal is positive; and

setting said destination to said clearance station when said alarm signal is negative.

27. A method to store and retrieve at least one x-ray image according to claim 23 further comprising:

generating a search annotated image from said screen annotated image at said at least one inspection station;

recording on said data storage and retrieval device said search annotated image;

retrieving on said data retrieval and retrieval device said search annotated
image; and

digitizing on said data processor said search annotated image.

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